WHAT IS CLAIMED IS:

1. An image processing apparatus comprising:

sorting means for executing sorting processing of sorting a train of pixel values within the same line of a radiation image and thus rearranging the train of pixel values within the same line from pixels having higher pixel values to pixels having lower pixel values;

analyzing means for calculating a characteristic value from a predetermined region of the image after the sorting processing; and

gradation transforming means for executing gradation transformation processing of the radiation image based on the characteristic value.

2. The apparatus according claim 1, further comprised of irradiation region recognizing means for extracting an irradiation region region from the radiation image,

wherein said sorting means executes the sorting process of the radiation image within the extracted irradiation region region.

3. The apparatus according claim 1, wherein the predetermined region for the calculation by said analyzing means is set as a region separated at a predetermined distance from an end on the side of a

low pixel value in the image having undergone the sorting processing.

4. The apparatus according claim 1, wherein the radiation image contains one or more regions of a gas part and a spinal part in the image.

5. An image processing apparatus comprising:

radiation generating means for generating radiation;

a two-dimensions X-ray sensor for transforming the radiation into a radiation image;

sorting means for executing sorting processing of sorting a train of pixel values within the same line of the radiation image and thus rearranging the train of pixel values within the same line from pixels having higher pixel values to pixels having lower pixel values;

analyzing means for calculating a characteristic value from a predetermined region of the image after the sorting processing; and

gradation transforming means for executing gradation transformation processing of the radiation image based on the characteristic value.

6. An image processing method comprising:

a sorting step of executing sorting processing

of sorting a train of pixel values within the same line of a radiation image and thus rearranging the train of pixel values within the same line from pixels having higher pixel values to pixels having lower pixel values;

an analyzing step of calculating a characteristic value from a predetermined region of the image after the sorting processing; and

a gradation transforming step of executing gradation transformation processing of the radiation image based on the characteristic value.

7. A program for making a computer realize said image processing method according to claim 6.

8. A readable-by-computer storage medium stored with a program for making a computer realize said image processing method according to claim 6.